

NEMATODES FROM WEST BENGAL (INDIA) IV.
THREE KNOWN AND TWO NEW SPECIES OF
THE GENUS *DORYLAIMOIDES* THORNE
& SWANGER, 1936 (LEPTONCHIDAE :
DORYLAIMIDA)

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(With 2 Text-figures)

INTRODUCTION

This is the fourth paper on the series "Nematodes from West Bengal (India)" which deals with three known and two new species of the genus *Dorylaimoides* Thorne & Swanger, 1936 belonging to the family Leptonchidae Thorne, 1935. The known species, viz. *Dorylaimoides parateres* Siddiqi, 1964, *D. pakistanensis* Siddiqi, 1964 and *D. modestus* Siddiqi, 1965, are being reported here for the first time from West Bengal.

It is to be noted that family Dorylaimoididae Siddiqi, 1969 and superfamily Leptonchoidea (Thorne, 1935) Ferris, 1971 are not recognized here.

***Dorylaimoides parateres* Siddiqi, 1964**

1964. *Dorylaimoides parateres* Siddiqi, *Nematologica*, 9 : 628.

1969. *Dorylaimoides parateres* Baqri & Jairajpuri, *Nematologica*, 15 : 419.

Measurements:

Females (2): L=1.44-1.61 mm; a=39-42; b=6.6-7.3; c=58-65;
V=¹⁰⁻¹¹ 44-46 ¹⁰⁻¹¹.

Habitat and locality: Soil around roots of paddy at Tufangunj—Cooch Behar Road, Tufangunj, District Cooch Behar.

***Dorylaimoides pakistanensis* Siddiqi, 1964**

1964. *Dorylaimoides pakistanensis* Siddiqi, *Nematologica*, 9 : 630.

Measurements:

Females (2): L= 1.16-1.21 mm; a=36-38; b=6.0-6.4; c=11-13; V=¹¹⁻¹² 39.40 ¹¹⁻¹³.

Habitat and locality: Soil around roots of banana from Chakchaka, District Cooch Behar.

Dorylaimoides modestus Siddiqi, 1965

1965. *Dorylaimoides modestus* Siddiqi, *Nematologica*, 11 : 102.

Measurements:

Female (1) : L=1.04 mm; a=45; b=6.2; c=19, V=³⁶12.

Habitat and locality: Soil around roots of litchi from Siliguri, District Jalpaiguri.

Dorylaimoides loofi sp. n.

(Text-fig. 1)

Holotype (♀) : L=0.73 mm; a=29; b=5.0; c=32; V=¹³⁴⁷14.

Paratype (♀) : L=0.78 mm; a=30; b=5.1; c=31; V=¹³⁴⁸12.

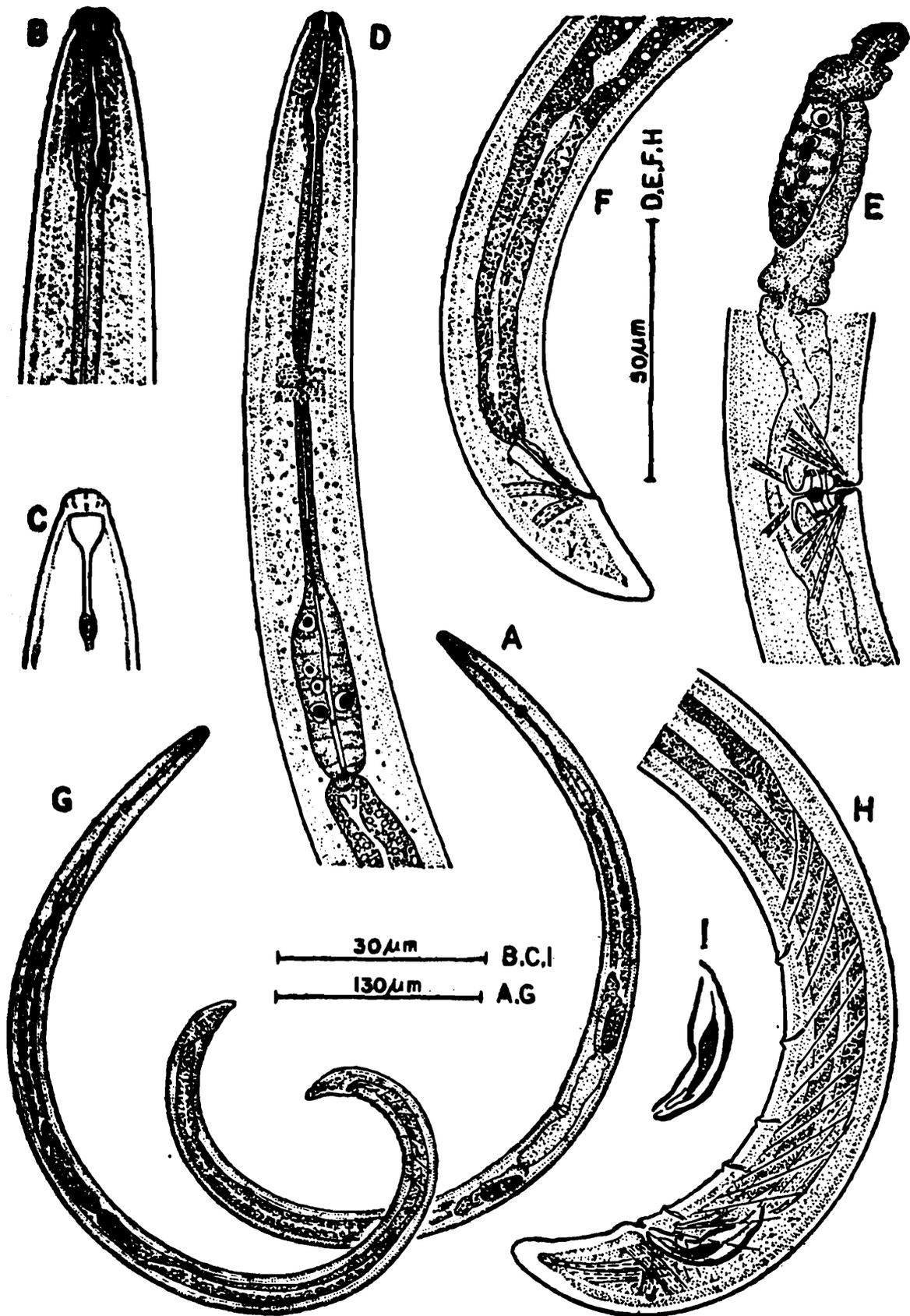
Paratype (♂) : L=0.72 mm; a=31; b=4.7; c=30; T=57.

Description:

Female : Body 'C' shaped upon fixation, tapering slightly towards both extremities. Cuticle finely striated transversely; its thickness about 1 μm in mid-body and 4 μm at tail. Lateral chords granular, about 1/6th the body-width near middle. Ventral, dorsal and lateral body pores not distinct.

Lip region offset by a slight constriction from body, nearly rounded 1/3.5—1/3.0 of body-width at base of oesophagus. Amphids stirrup shaped, apertures occupying 4-5 μm or 65-69% of the corresponding body-width and 3-4 μm from anterior extremity. Sensillar pouches 15-17 μm from amphidial apertures.

Odontostyle measures 7-8 μm dorsally and 9-10 μm ventrally or 1.1-1.2 and 1.3-1.4 lip region-width long dorsally and ventrally respectively, diverging at base; aperture about 2 μm long. Thickness of odontostyle less than the cuticle-width in corresponding region. Guiding ring 5-6 μm or 0.8-0.9 lip region-width from anterior extremity. Odontophore curved, 13-14 μm long. The anterior slender part of oesophagus gradually expands to form the basal expanded portion.



Text-fig. 1. *Dorylaimoides lofi* sp. n. : A-F. Female. A—Entire female, B—Anterior end, C—Surface view of anterior end, D—Oesophageal region, E—Anterior gonad, F—Posterior region. G—I. Male. G—Entire male, H—Posterior region, I—Spicule and lateral guiding piece.

The basal expanded portion of oesophagus occupying 24-26% of neck

region. Locations of oesophageal gland nuclei and their orifices as follows:

DO=76.0-78.4	S ₁ N ₁ =86-89	S ₂ N=91-93
DN=78.6-81.0	S ₁ N ₂ =88-90	S ₂ O=93-95
DO-DN=2.6		
K=82-92		K'=87-94

Nerve ring 71-77 μm or 46-49% of neck region from anterior end. Oesophago-intestinal disc absent. Cardia about 3 μm long, rounded, enveloped by intestinal tissue. Prerectum 62-70 μm or about 4 anal body-width long. Rectum 17-18 μm or about one anal body-width long.

Vulva a transverse slit. Vagina extending inward 12-13 μm or about 1/2 of the corresponding body-width; surrounded by sphincter, with moderately sclerotized distal region. Gonads didelphic, opposed. Uterus and oviduct separated by sphincter; oöcytes arranged in a single row except at growth region.

Tail conoid with blunt terminus, 23-25 μm or 1.4-1.5 anal body-width long; with one caudal pore on each side.

Male: Similar to female in general shape and morphology. Spicules 28 μm or about 1.5 anal body-width long, with a simple median piece. Lateral guiding pieces more or less rod-shaped, about 5 μm long. In addition to the adanal pair, four irregularly spaced ventromedian supplements; first ventromedian supplement anterior to spicule region. Subventral papillae not distinct. Copulatory muscles 14, reaching anterior to supplement region. Spermatozoa elliptical, 3-4 μm long. Prerectum starting anterior to copulatory muscles, 92 μm or about five anal body-width long. Tail similar to female, 24 μm or slightly more than 1.3 anal body-width long; with one caudal pore on each side.

Differential diagnosis: *Dorylaimoides loofi* sp. n. comes close to *D. teres* Thorne and Swanger, 1936 in having diverging base of odontostyle and short conoid tail with blunt terminus but it differs from the latter in having a shorter body (L=1.2-1.8 mm in *D. teres*); longer oesophagus (b=5.6-6.7 in *D. teres*); shorter enlarged part of oesophagus (enlarged part about 1/3rd of total oesophageal length in *D. teres*); nearly rounded lip region; one caudal pore on each side (two caudal pores on each side in *D. teres*); ventromedian supplements spaced irregularly, the series starting anterior to spicula region in male (ventromedian supplements spaced regularly and series starts within range of spicula in *D. teres*).

The species is named after Dr. P.A.A. Loof.

Type specimens: Holotype along with paratype female and male mounted on slide WN 200/1.

Type habitat and locality: Soil around roots of banana from Fulbari, Tufanganj, District Cooch Behar; Q. H. Baqri Coll.

***Dorylaimoides siddiqii* sp. n.**

(Text-fig. 2)

Measurements:

Holotype (♀): L=1.22 mm; a=38; b=6.7; C=21; V= 1040^{12} .

Paratype (3♀): L=1 10-1 19 mm; a=35-37; b=5.7-6.5; c=20-21; V= $9-13$ 39-40 $10-13$

Paratype (♂): L=1 13 mm; a=38; b=6.1; c=28; T=60.

Description:

Female: Body ventrally curved in posterior half upon fixation, tapering slightly towards both extremities. Cuticle finely striated transversely; its thickness about 2 μ m in mid-body and about 4 μ m at tail. Lateral chords granular, 1/6th-1/5th the body-width near middle. Lateral, ventral and dorsal body pores not distinct.

Lip region offset from body by a slight constriction, 1/3.8-1/3.5 of body-width at base of oesophagus. Amphids stirrup-shaped, divided into two parts by a faint transverse line; apertures occupying about 5 μ m or 62-66% of the corresponding body-width, about 4 μ m from anterior end. Sensillar pouches 16-18 μ m from amphidial apertures.

Odonotostyle 8-9 μ m or 1.0-1.1 lip region width long, thickness less than the corresponding cuticle-width; aperture about 2 μ m. Guiding ring 6 μ m or about 0.8 lip region width from anterior end. Odonotophore curved, 11-13 μ m or 1.4-1.6 times the odontostyle length. Anterior slender part of oesophagus non-muscular while basal expanded part muscular, the two parts separated by a constriction. Basal expanded part of oesophagus occupying 27-30% of neck region in width. Locations of oesophageal gland nuclei and their orifices as follows:

DO=73.7-74.8

S₁ N₁ =84.0-87.8

S₂ O=91-93

DN=78.0-78.8

S₁ N₂ =85-89

S₂ N=92-94

DO-DN=3.2-5.0

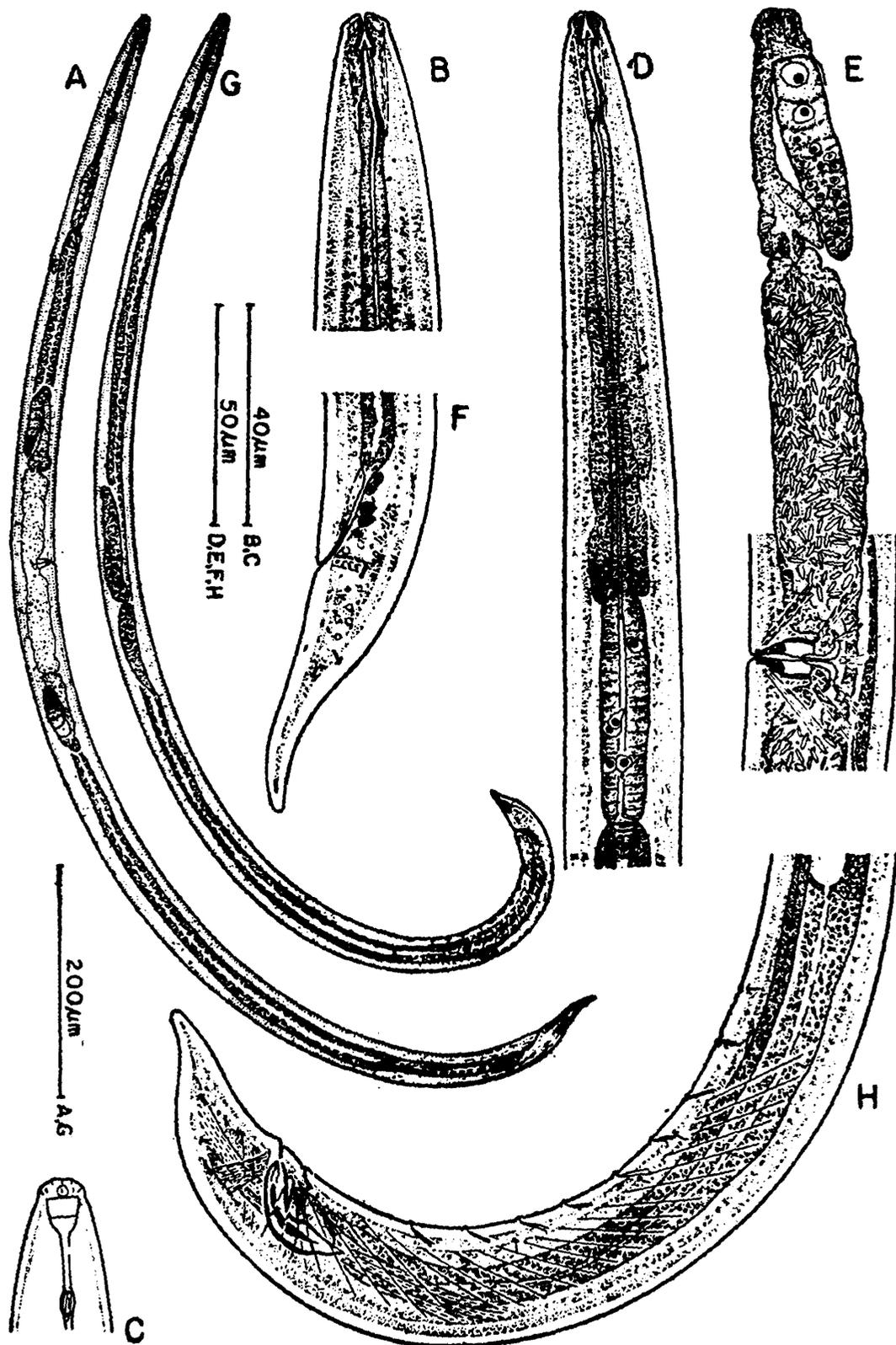
K=87-92

K'=80-86

Nerve ring 82-86 μ m or 43-46% of neck region from anterior end. Oesophago-intestinal disc absent. Cardia tongue-shaped, 5-7 μ m long,

enveloped by intestinal tissue. Prerectum 92-130 μm or 4.4-6.2 times the anal body-width long. Rectum 20-24 μm or about one anal body-width long.

Vulva a transverse slit. Vagina extending inward 17-20 μm or more than half corresponding body-width, with slightly sclerotized



Text-fig. 2. *Dorylaimoides siddiqii* sp. n. : A-F. Female. A—Entire female, B—Anterior region, C—Surface view of anterior region, D—Oesophageal region, E—Anterior gonad, F—Tail region. G—H. Male. G—Entire male, H—Posterior region.

distal region. Gonads didelphic, opposed. Uterus and oviduct separated by sphincter; uteri often packed with sperm; sperm elliptical, 4-5 μm long. Oöcytes arranged first in a single row then in double rows.

Tail elongate digitate, usually slightly bent dorsally, 53-59 μm or 2.5-2.8 anal body-width long; with two caudal pores on each side.

Male: Similar to female in general shape and morphology except that the posterior end curved more ventrally. Spicules 30 μm or about 1.4 anal body-width long, with a simple median piece. Lateral guiding pieces more or less rod-shaped, 4-5 μm long. In addition to the adanal pair, 8 regularly spaced ventromedian supplements. The first ventromedian supplement situated much anterior to spicula region. Only 4 subventral papillae could be observed. Copulatory muscles 23 in number, reaching up to 7th ventromedian supplement. Prerectum 170 μm or about 7.7 anal body-width long, starting much before supplement region. Tail similar to female but shorter, 41 μm or 1.9 anal body-width long; with two caudal pores on each side.

Differential diagnosis: In having elongate digitate tail and posterior end bent dorsally, *Dorylaimoides siddiqii* sp. n. comes close to *D. micoletzkyi* (de Man, 1921) Thorne & Swanger, 1936 but it differs from the latter in having offset lip region (lip region almost continuous with neck contour in *D. micoletzkyi*); differently shaped amphids (amphidial apertures wider and pouch without partition line in *D. micoletzkyi*); vulva without muscular labia (vulva with muscular labia in *D. micoletzkyi*); differently shaped vagina; in male first ventromedian supplement situated much anterior to spicula region (first ventromedian supplement situated within range of spicula in *D. micoletzkyi*), ventromedian supplements spaced regularly (ventro-median supplements spaced irregularly in *D. micoletzkyi*).

The species is named after Dr. M. R. Siddiqi.

Type specimens: Holotype along with paratype male on slide WN 201/1; 3 paratype females on slide WN 202/1.

Type habitat and locality: Soil around roots of litchi from Jalpaiguri More, Siliguri, District Jalpaiguri; Q. H. Baqri Coll.

SUMMARY

Dorylaimoides parateres Siddiqi, 1964; *Dorylaimoides pakistanensis* Siddiqi, 1964 and *Dorylaimoides modestus* Siddiqi, 1965 have been reported for the first time from West Bengal. Apart from these three known species, *Dorylaimoides loofi* sp. n. and *Dorylaimoides siddiqii* sp. n. have also been described.

REFERENCES

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